FUJI Xerox

Safety information on Fuji Xerox Products

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General overview

Reference: Facts about safety of Xerox Products

It is the policy of Fuji Xerox Company Limited and Xerox Corporation (Fuji Xerox Group) that all products and materials manufactured by the group and marketed worldwide meet recognized standards for safety, health and environment and to ensure that ‘ best practice’ is followed where no such standards exist or apply.

In addition, Fuji Xerox Group products, materials, and practices comply with the appropriate government standards. In instances where standards of different severity apply under various jurisdictions, our usual practice is to comply with the strictest standards multi-nationally.

The purpose of this policy is to ensure that Fuji Xerox / Xerox products and materials do not constitute a risk to the health and safety of our customers, employees or the general public. To ensure full compliance with the above policy, health and safety considerations are an essential element of the product and materials design and review process.

Extensive systems testing is conducted under a variety of simulated field and stress conditions to verify that all the health and safety requirements have been met. Fuji Xerox Group conduct some of these tests while others are performed by external test organizations.

With regard to the materials used in products, we have historically performed appropriate acute toxicity tests (ingestion, inhalation, sensitization, etc.). When deemed necessary, results of longer term exposure tests are evaluated. With advances in the field of genetic toxicology, we have used a battery of tests for a number of years as a predictor of potential longer term effects.

In all of these activities, the Fuji Xerox Group uses qualified personnel to perform the required studies.

As developments warrant, external experts are consulted to provide advice and critique.

In any instances where new information raises a concern about the safety of a product or material, prompt corrective measures are taken.

In the case of electrical or mechanical safety concerns, where problems can be analysed more rapidly, the recommended corrective actions are disseminated promptly to service representatives by Critical Safety Bulletins.

In all cases, action is taken with health and safety being the priority.

Safety information available to customers, public, employees

Safety information on Fuji Xerox Group products can be requested from Fuji Xerox Australia's OH&S Department by emailing:
OHSenquiries@aus.fujixerox.com
or phoning:
(02) 93645100

For technical information contact the National Product Management Group on:
(02) 9856 5000

Material Safety Data Sheets (MSDSs)

A document that describes the properties and uses of a substance that identifies the manufacturer, chemical and physical properties, health hazard information, precautions for the safe use, storage, transport and safe handling information (eg: on toner, fuser agent or cleaning agents).

Product Safety Data Sheets (PSDSs)

A document that describes the electrical and mechanical certification, electromagnetic compatibility, heat outputs, power consumption, audible noise outputs, gaseous and particulate emissions such as total dust and ozone of a product (eg. a multifunctional device).

Safety fact sheets on toner, ozone, etc

Safety Fact Sheets provide specific information and answers to frequently asked questions on subjects such as toner, ozone, paper, illumination systems and laser devices.

General product risk analysis

A document to assist the user to identify any potential risks in operating a Fuji Xerox Group product and the recommended control measures to minimize such risk.

This document is a guide only and can be used by a customer to draft their own onsite Risk Assessment and should be used in confirmation with the product's User Manual.

Customer Expectation Document (CED)

The purpose of this document is to provide interested parties with clear product performance, capabilities, features, optimal performance parameters and recommended guidelines prior to installation.

The CED document includes:

- product specifications
- product performance
- accessories
- supplies
- installation requirements and clearances
- support
- safety and environmental information.

Safe work practices

In order to ensure the health and safety of those using Fuji Xerox Group equipment, the following basic guidelines should be applied:

- Equipment must be sited according to the recommended machine location and clearance guidelines specified in the machine specifications or the CED. Equipment clearances should be reviewed if a machine is moved to a new location.
- Comply with all caution and warning labels.
- Equipment must be connected to a properly grounded electrical service outlet.

- Some covers are interlocked to ensure removal of hazardous conditions when covers are opened. Interlocks must not be bypassed.
- Refer to the User Manual to operate.
- Covers or guards held in place by fasteners that require tools to be removed are not to be removed except by a Fuji Xerox service engineer or authorised trained service personnel.
- Use only Fuji Xerox approved maintenance procedures and materials, both inside and outside the equipment.
- If any unusual noises, odours or smoke is noticed, the machine should be stopped immediately, disconnected from its power supply and serviced before next use.
- Spent materials and products should be disposed of according to instructions provided by the MSDS and relevant local regulations.
- To avoid nuisance or discomfort effects, avoid staring at the machine's light source.

Machines

Electromagnetic compatibility

All Fuji Xerox products are designed to function in the normal office environment without causing harmful interference to nearby equipment or radio communication services.

All products comply with the Class B requirements of electromagnetic radiation standards except for some professional or industrial use machines. The standards employed for evaluation the radiation are CISPR22/FCC Part 15 – Subpart B, ICES-003, EN55022, and for harmonics EN/IEC61000-3-3 and EN/IEC61000-3-2 and 3-11 for flicker/Voltage fluctuation.

All products comply with the applicable Australian Communications and Media Authority (ACMA).

C Tick & A Tick approvals.

The C-Tick label indicates that the product complies with the applicable ACMA conditions and standards.

The A-Tick indicates that the product is compliant with the mandatory technical standards and can legally be connected to a telecommunications network.

Illumination systems

The types of document exposure lamps in Fuji Xerox Group products are usually fluorescent or quartz halogen designed to emit the spectral frequencies required by the particular xerographic process. The lamp characteristics and machine configuration are designed and tested to ensure that spectral radiation is not harmful to users.

As in the case of any light source, direct viewing of the lamp may cause short term after images, which can be an annoyance. To avoid these effects, which are not harmful, users should not directly view the document exposure lamp.

Machines using Xenon flash systems are designed to prevent operator exposure to the high intensity flash, which may otherwise cause severe ocular discomfort. In some xerographic copiers the platen covers are electro-mechanically interlocked during copying, in others the flash unit cannot be viewed directly. In the later case the intensity of reflected light is within permissible limits.

Laser devices

Fuji Xerox products incorporating laser devices use devices that fall into the low category or “Class 1”.

Laser Class 1 – designation indicates that there are no established biological hazards from exposure or radiation.

Class 1 indicates the normal “human blink” response and will protect viewers from eye damage.

All Fuji Xerox product laser systems are in a protective enclosure and should only be serviced by authorised service engineers in a controlled environment.

The laser sub-system is generally replaced as a whole unit. Where cleaning or adjustment is required on-site the laser sub-system is disconnected and removed from the printer.

Fuji Xerox Group products incorporating laser devices do not pose any harm to the user if used correctly in accordance with instructions.

Fire retardants and plastics

Various safety standards prescribe the requirement for plastics exposed to operational heating in electronic equipment to incorporate fire retardants. This protects against the risk of fire in the event of an equipment failure causing over-heating. Such additions are of no consequence in the context of normal operational usage of equipment however they may generate toxic emissions in the event of destruction in an all consuming fire incident. The only practical issue with such additions arises on end of life disposal and recycling where care has to be exercised in appropriately managing the recycling of such plastics.

Machine clearances

Machine clearances are the recommended safe clearances around a machine to enable safe access to service the equipment. Such clearances should not encroach on egress corridors, walkways or otherwise create a workplace hazard. There should be sufficient space above the machine to enable safe servicing. Location of the device will be in compliance with the relevant building code's requirements for egress. Recommended machine clearances are specified in the relevant product's Customer Expectation Document (CED), which forms an annexure to customer equipment acquisition agreement and can be supplied on request from the National Product Management Group or Fuji Xerox Australia's OH&S Department. Recommended machine clearance can vary depending on the type of floor surface (hard or soft).

Fuji Xerox Group equipment is designed not to interfere with other communication devices or produce electromagnetic noise, harmful emissions or radiation. In view of this, there are no additional specific distancing requirements between the equipment and a manual workstation utilising computer or other electronic equipment.

For the purpose of providing enough space for safe servicing and comfort of a person located near a photocopier, it is recommended a manned workstation should be located no closer than 2 metres from the machine with the machine exhaust facing away from the workstation.

Machine environment

Noise

The national standard for acceptable exposure to noise in the occupational environment is an average daily exposure level of 85 decibels.

The levels specified in the national standard are the maximum acceptable exposure levels for noise in the workplace. However, over long periods, repeated noise exposure at between 75 and 85 decibels may be a small risk to some people. With progressively increasing levels, the risk becomes greater. Workplace noise levels lower than 85 decibels are, therefore desirable, if practicable.

The noise criteria varies per copy or print speed of product, but are designed to satisfy the applicable operating noise criteria respectively. Audible noise levels in bystander and operator positions are determined according to international standards. The levels must meet the source pressure limit of 82dB(A)which is within occupational safety limits for work without hearing protection.

Fuji Xerox products do not produce noise levels that would be expected to damage human hearing and may be operated continuously without need for protective equipment.

Measure levels of noise output are specified in each product's Product Safety Data Sheet.

There are numerous methods to control or minimise noise from copying and printing equipment in the workplace.

Ensure regular maintenance is carried out.

Replace noisy machines.

Locate the machine away from occupied work spaces to reduce noise if practicable.

Locate the machine in its own room. For example a print room if practicable.

Reference

National Standard for Occupational Noise [NOHSC:1007 (2000)] 2nd edition.

Ozone

** Refer to the machine Product Safety Data Sheet for ozone emissions.*

Cas N0: 10028 – 15 – 6

How ozone exposure limits or emissions are expressed

Ozone emission can be expressed in either "ppm" or "mg/m3". The value of ozone expressed in ppm is approximately half the value if expressed in mg/m3. Therefore, if the machine's Product Safety Data Sheet has expressed the ozone emission as 0.2mg/m3, the emission will equal 0.1 ppm.

Conversion: 1 ppm = 1.96 mg/ms

Definitions

- **TWA:** Exposure standard – Time Weighted Average. Concentration over an entire eight hour working day.
- **PPM:** Parts Per Million – Parts of vapour or gas per million parts of contaminated air by volume.
- **Mg/m3:** Milligrams of substance per cubic metre of air at 25 degrees C and at one atmosphere pressure.
- **TLV:** Threshold Limit Value.

Ozone is an unstable form of oxygen and can be produced by photocopiers and laser printer during operation.

Ozone has a half-life of 6 min in the office environment.

Ozone has a sweet smell which can be detected at concentrations of 0.1 to 0.2 part per million (ppm).

The Exposure Standard for ozone is a 0.1 ppm peak limit averaged over an eight hour period. It is recommended that this level is never exceeded at any time during the working day.

The concentration of ozone within the breathing zone of the operator is dependent on the amount of ozone discharged from the photocopier or printer, the rate of decay of the ozone, the volume of air in the room, the concentration

of ozone in the intake air and the ventilation provided in the room (either by natural air movement or air-conditioning air movement).

The majority of ozone is produced during the charging of the photoreceptor and paper. Under normal circumstances the concentration of ozone from photocopiers and printers is not sufficient to detect and is unlikely to cause any symptoms, as ozone is readily converted back to oxygen.

Levels of ozone production vary with the type of technology used in a particular product. If a product is capable of ozone production, then the levels are tested during development. If the results indicate that levels exceed the design criterion of 0.1ppm TWA, then an ozone reduction device will be built into the machine as necessary to meet the criterion.

Many photocopiers are fitted with an ozone filter which are activated carbon devices that will provide 100 % decomposition given sufficient contact with ozone.

The ozone output levels for most recent Fuji Xerox Group products are around 0.005 ppm, which is well within the recommended safe exposure limits. Even if the level of ozone emission is very low some products are still fitted with a filter to avoid any odour. Ozone odour complaints can depend on personal sensitivity.

Products that do not have ozone filters are in the category that produces insufficient quantities of ozone for detection under normal operating conditions.

Australian references

- Exposure Standards for Atmospheric Contaminants in the Occupational Environment
  National Exposure Standards [NOHSC:1003 (19950]
  Guidance Note [NOHSC:3008 (19950].
- National Occupational & Safety Commission: Office Copying Machines.
- WorkCover NSW: Health & Safety in the Office Guide 2004.

Japanese references

- WHO Indoor Air Quality Guideline: the concentration values that won't have any adverse effects on human health even if humans are exposed to the chemical substance whose concentration is less than the criteria.
- American Conference of Government Industrial Hygienists (ACGIH) established the criteria of safe levels of exposure for an 8 hour day or 40 hours per week.
- Japan Society for Occupational Exposure Limits.

Heat

Heat is generated during the photocopying process. If ventilation and heat dispersal is not adequate, it may cause the temperature to rise in the room which may cause discomfort to workers.

Refer to the machine's Product Safety Data Sheet for heat emission outputs.

Ventilation

Fuji Xerox Group equipment is designed and usually tested to comply with emission criteria without specific ventilation. Specific ventilation is not a requirement for Fuji Xerox Group office products whereas some high volume production equipment has specific exhaust requirements. Generally all equipment will perform optimally in an air-conditioned environment but may equally perform satisfactorily in appropriately ventilated premises.

In rooms where it is intended to operate equipment continuously, FX recommends a minimum ventilation rate of 1.5 air changes per hour. This is based on Good Practice Guidelines established by ventilation associations. However, the exact extent of air turnover required to maintain comfortable conditions will be dependent on the extent of usage of equipment and the amount of other equipment in the environment.

Refer to Product Safety Data Sheets for heat and other emission outputs that may be relevant to the consideration of the sustainability of a particular location.

Consumables and chemicals

Toners

FXA toners do not contain hazardous substances according to Worksafe Australia and are not considered as hazardous preparations according to any regulatory classification criteria.

Refer to the relative Material Safety Data Sheet for hazardous identification, handling, storage, transport and spill information.
Toner consist of a plastic base containing colourants and low concentrations of functional additives. The main ingredients of Fuji Xerox Group toner (dry ink – black) is, stylene/bytylacrylate copolymer, Mn – Mg – Sr ferrite powder, polyethylene or polyolefin wax, carbon black and amorphous silica.

The exact combinations of ingredients depend on the type of Fuji Xerox toner but as an example 70 % of the ingredients of a major toner used for the current FX middle speed products typically found in offices is stylene/bytylacrylate copolymer.

Carbon Black currently used in Fuji Xerox Group toners contain extremely low levels of impurities and do not warrant concern regarding health effects.

Tests conducted by WorkCover NSW indicated that the dust output from Multi Functional Devices is typically well below the Australian Exposure Standard of 3 mg per cubic metre of air containing Carbon Black. It is possible however if toner dust is breathed in directly, that it could irritate the respiratory tract.

Refer to the NOHSC website:
http://www.nohsc.gov.au/OHSinformation/databases/ExposureStandards/expsearch.asp
WorkCover Health and Safety in the Office Guide 2004

Fuji Xerox dust exposure limits for nuisance dust are well below the Australian Exposure Standard.

Total Dust and Styrene exposure information is available on each Product Safety Data Sheet.

Toners are mostly contained in sealed containers or cartridges and do not present a health and safety issue.

References

- Carbon Black CAS No: 1333 – 896 – 4
  Exposure standards TWA: ppm – mg/m3 (time weighted average)
  Exposure standards STEL: ppm – mg/m3 (short term exposure level)
- Exposure Standards for Atmospheric Contaminants in the Occupational Environment
  National Exposure Standards [NOHSC:1003 (19950)]
  Guidance Note [NOHSC:3008 (19950)]

Developers

Developers are composed of a carrier material and toner. Fuji Xerox Group product carriers are based on special grades of sand, glass, steel or ferrite types of materials. They are generally coated with a small amount of special polymer to achieve the desired functional behaviour in the xerographic equipment.

Liquid and solid inks

In some imaging applications (such as plotters, printers) liquid and solid inks may be used. The liquid inks are generally based on a paraffinic solvent and contain various colorants and dispersing agents. Black inks contain specialty grade carbon blacks while coloured inks contain dyes or pigments. The various solid inks contain polyethylene, waxes, resins, dyes and pigments and are not classified as hazardous.

Recommended safe work practices for toners and inks

- Clean up any residual toner dust that can accumulate around a machine.
- Have the machine regularly serviced.
- Refer to the Material Safety Data Sheets for safe handling and disposal.
- Dispose off in the correct method.

- Clean up any toner spills immediately.
- Use only cold water to remove toner from clothes. Do not use hot water, it will soften the toner and fuse it.
- Electrostatic charge has the potential to ignite toner and result in a dust explosion.

There are no significant hazards associated with Xerox toners and developers.

How to clean up a toner spill

Slowly sweep up spilt toner on a sheet of paper by using a brush or a broom, then carefully transfer to the waste bottle. For the remaining toner powder, either wipe off with a wet cloth (waste) or remove by using an approved vacuum cleaner.

Caution

Fuji Xerox supplies an approved vacuum cleaner with the toner resistant specification.

Toner is a very fine dust and caution should be applied when using a vacuum cleaner to clean up spills.

The toner may block up the vacuum cleaner if the filter bag does not capture the fine toner dust and cause damage to the motor.

In addition, as toner is also contained with developer, similar caution will be required.

Selenium

Historically selenium had been used as a photoreceptor material, but its use was phased out in the early 1990s.

Paper

Paper handling

Paper can be purchased in single reams, cartons or bulk on a pallet with separate units that vary in weight. In order to prevent manual handling injuries, a risk assessment should be conducted to minimize or eliminate manual handling risks.

Fuji Xerox currently repacks 20 lines of A3 paper (predominately A3 Performer) from a carton of 5 reams to 3 reams prior to customer delivery. Therefore, significantly reducing the weight per carton.

Paper storage

Manual handling requirements should be considered when storing paper as well as maintaining the quality and condition of the paper. Do not store paper in a manner that presents a risk to the user.

Train staff in safe manual handling techniques to prevent injury arising from unloading, loading, lifting and carrying quantities of paper.

Store paper in an accessible location.

- Prevent storing paper directly on the floor, this increases the possibility of moisture absorption.
- Do not open reams of paper until the paper is to be loaded into the machine.
- Do not store paper next to a machine that prevents access in the event of an emergency or interferes with servicing.

Ensure that the recommended paper is used. Poor quality paper or pre-printed paper stock can be affected by the fuser heat and result in additional fumes or dust from the machine.

Paper conditioning

All paper must be conditioned to the temperature and humidity of the room containing the copier/printer.Paper should be located in the same room as the copier at least 24 hours prior to use.

- The recommended temperature and humidity for storing paper is: temperature: 20°C to 23°C
- humidity: 45 % to 55 % relative humidity.

Environmental concerns

Officecare programme

Fuji Xerox has developed an Officecare programme that is designed to assist businesses in being "green" and environmentally responsible. Officecare encourages organisations to think about ways to make businesses more sustainable and save resources by – recycling, reusing and reducing.

Fuji Xerox offers customers an Officecare box to dispose of used cartridges and toner bottles. Once the box is full, call **13 14 11** or fax **(02) 9700 6803** to organise collection and delivery of a new box. For more information on the Officecare programme visit the website: **www.fujixerox.com.au/officecare**

RoHS

RoHS Directive – Compliant products

Fuji Xerox Co Ltd has established a production system that complies with the RoHS Directive of the European Union.

Fuji Xerox Co Ltd has started supplying to the global market digital multifunction devices that are in compliance with the RoHS Directive.

What is the RoHS compliance?

RoHS also known as Lead-Free, stands for **Restriction of Hazardous Substance**. RoHS Directive 2002/95/EC Restricts the use of hazardous materials found in electrical and electronic products. All applicable products in the European Union market after July 1st 2006 must pass RoHS compliance.

What are the materials mandated under the RoHS Directive?

The directive bans the use of six substances:

- lead (Pb)
- mercury (Hg)
- cadmium (Cd)
- hexavalent chromium (CrVI)
- polybrominated biphenyls (PBB)
- polybrominated diphenyl ethers (PBDE).

Reference

www.rohsquide.com

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13 14 12

www.fujixerox.com.au

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Certified System™
Environment
ISO 14001
SAI GLOBAL

SCP SUPPORT CENTER PRACTICES CERTIFIED

energy

Protecting the environment is a fundamental component of our company's commitment to corporate citizenship. At Fuji Xerox Australia, we supply products that have been designed with both our customers and the environment in mind. As a world leader in the development of parts and components Remanufacturing Programs, we have made Eco Manufacturing an integral part of our business.

All our sites have achieved ISO 14001:2004 Environmental Management System Certification, as a demonstration of our commitment to protecting the environment.